

Title (en)

TRIVALENT METAL-DOPED HEXAGONAL PLATE-SHAPED ZINC OXIDE AND METHOD FOR PRODUCING SAME

Title (de)

DREIWERTIGES METALLDOTIERTES HEXAGONALES PLATTENFÖRMIGES ZINKOXID UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

OXYDE DE ZINC EN FORME DE PLAQUE HEXAGONALE DOPÉ PAR UN MÉTAL TRIVALENT ET SA MÉTHODE DE PRODUCTION

Publication

**EP 3640213 A4 20210331 (EN)**

Application

**EP 18816812 A 20180608**

Priority

- JP 2017115410 A 20170612
- JP 2018022075 W 20180608

Abstract (en)

[origin: EP3640213A1] The present invention provides zinc oxide having excellent infrared blocking ability, high whiteness, and excellent texture during use. The present invention relates to trivalent metal-doped hexagonal plate-shaped zinc oxide having an aspect ratio of 2.5 or greater, the trivalent metal-doped hexagonal plate-shaped zinc oxide having a trivalent metal element content based on the zinc element of 0.15 to 5 mol%, a whiteness of 90 or higher, and a powder spectral reflectance at a wavelength of 1500 nm of 80% or less.

IPC 8 full level

**C01G 9/02** (2006.01); **A61K 8/27** (2006.01); **A61Q 1/00** (2006.01)

CPC (source: EP KR US)

**A61K 8/27** (2013.01 - KR US); **A61Q 1/00** (2013.01 - KR); **A61Q 17/04** (2013.01 - US); **C01G 9/02** (2013.01 - EP KR US);  
**A61K 8/27** (2013.01 - EP); **A61Q 1/00** (2013.01 - EP); **C01P 2002/20** (2013.01 - EP); **C01P 2002/54** (2013.01 - US);  
**C01P 2002/72** (2013.01 - EP US); **C01P 2004/01** (2013.01 - KR US); **C01P 2004/03** (2013.01 - EP); **C01P 2004/22** (2013.01 - KR);  
**C01P 2004/24** (2013.01 - US); **C01P 2004/51** (2013.01 - EP); **C01P 2004/53** (2013.01 - KR); **C01P 2004/54** (2013.01 - EP KR US);  
**C01P 2004/61** (2013.01 - EP KR US); **C01P 2004/62** (2013.01 - EP US); **C01P 2006/12** (2013.01 - EP); **C01P 2006/60** (2013.01 - EP KR US);  
**C01P 2006/80** (2013.01 - KR)

Citation (search report)

- [I] EP 1527017 A1 20050504 - DEGUSSA [DE]
- [A] US 5102650 A 19920407 - HAYASHI TAKAO [JP], et al
- [A] WO 2015033990 A1 20150312 - SAKAI CHEMICAL INDUSTRY CO [JP]
- [XI] PAL MOUMITA ET AL: "Influence of Al doping on microstructural, optical and photocatalytic properties of sol-gel based nanostructured zinc oxide films on glass", RSC ADVANCES, vol. 4, no. 23, 1 January 2014 (2014-01-01), GB, pages 11552 - 11563, XP055777207, ISSN: 2046-2069, DOI: 10.1039/C3RA44612C
- See references of WO 2018230473A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 3640213 A1 20200422; EP 3640213 A4 20210331; CN 110770171 A 20200207; JP 6451913 B1 20190116; JP WO2018230473 A1 20190627;**  
KR 102569070 B1 20230821; KR 20200016842 A 20200217; US 11446221 B2 20220920; US 2020129394 A1 20200430;  
WO 2018230473 A1 20181220

DOCDB simple family (application)

**EP 18816812 A 20180608; CN 201880038679 A 20180608; JP 2018022075 W 20180608; JP 2018544140 A 20180608;**  
KR 20197033560 A 20180608; US 201816620800 A 20180608